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**Impact of the Administration of Financial Technology on Cost Cutting and Profitability in Indian Public Sector Banks: A Case Study of the Punjab National Bank**

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# IMPACT OF THE ADMINISTRATION OF FINANCIAL TECHNOLOGY ON COST-CUTTING AND PROFITABILITY IN INDIAN PUBLIC SECTOR BANKS: A CASE STUDY OF THE PUNJAB NATIONAL BANK

## BACKDROP

Indian Economy's wheels are driven by banks. Bank is an office or institution which collects money from those who have spare of it and lend money to those who need or require it. They take deposits from the public and in return offer them an interest with higher rate than offered to the depositors. The income towards the functioning of banks is the difference in the interest rates.

Technology is having influence on every industry, including Banking and Financial services. Globalization and financial liberalization have extended banking operations, resulting into a wide range of products and services. The popularity of electronic banking in the world is increasing at a significant rate. Fintech has the potential to fundamentally transform the financial landscape. It provides consumers with a greater variety of financial products at competitive prices and helps the financial institutions become more efficient. Fintech aims to increase customer satisfaction by improving the comfort level of banking operations.

India is one of the largest and fastest-growing fintech markets in world with more than 2,100 financial technologies being adopted by financial institutions. It is the third-largest fintech ecosystem in the world after the US and China. India has a fintech adoption rate of 87%, which is the highest in the world with a global average at around 64%. The entire fintech business opportunity in India is expected to be $1.3 trillion by 2025, with a CAGR of 31% between 2021 to 2025.

## CONCEPT OF FINTECH

Fintech is short form of *Financial Technology* that seeks to improve and automate the delivery and use of financial services. Simply put, Fintech is the intersection of Finance and Technology which in turn, benefits both the sectors. It is generally described as an industry that uses technology to make financial system and the delivery of financial services more efficient. Fintech is technologically enabled financial innovation that results in new business models, applications, processes or products with an associated material effect on financial markets and institutions. From ATMs to stock market exchanges, all technological advancements in the financial sector came under the niche

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of Fintech and have been around us from decades now.

Recently, the Global Fintech Fest was held from 5th to 7th of September, 2023 and the RBI Governor (Shaktikanta Das) spoke at the fest; some key points highlighted include:

- Indian economy is on the cusp of a major transformation in the fintech sector; and innovation is the bedrock of the fintech industry.

- Fintech department has already been established in RBI in the year 2022.

- Over 50 crore Jan Dhan bank accounts have been opened so far.

- Digital transactions grew from 1.2 billion in 2014 to 91 billion in 2022.

- Need for effective governance in fintech.

**FINTECH IN BANKING SERVICES**

Modern banking in India originated in the last decade of 18th century. Struggling through colonial to post-independence era and from nationalization to liberalization, the fintech industry has witnessed a massive transformation over the last two centuries.

Fintech has rapidly transformed the landscape of Indian banking services, ushering in an era of unprecedented innovation and convenience. In recent years, India has witnessed a surge in fintech startups and collaborations between traditional banks and technology companies, resulting in abundance of digital solutions for payments, lending, insurance, and wealth management. As per a report published by PwC and ASSOCHAM, the adoption rate of fintech in India is the second highest globally at 59% (Agarwal, M. and Staff, I. 2019). Banks are now joining forces with fintech startups to upgrade their existing system and enable smoother operations to deliver a better experience for consumers. Mobile payment platforms like UPI (Unified Payments Interface) have gained widespread adoption, revolutionizing the way Indians transact and make digital payments. Moreover, fintech has played a pivotal role in expanding financial inclusion by providing access to banking services for millions of unbanked and underbanked individuals through mobile banking and digital wallets. With regulatory support and a growing consumer appetite for tech-driven financial services, the fintech ecosystem in India continues to flourish, promising a future where banking is more accessible, efficient, and customer-centric than ever before.

**Punjab National Bank:**

Punjab National Bank (PNB) is one of the oldest and largest public sector banks in India. Established in 1894, it has a rich history and a widespread presence across the country. PNB was founded in Lahore, undivided India, and has since then grown to become one of the leading banks in India. It played a crucial role in financing India's agricultural and industrial sectors during its formative years. Following the partition of India, PNB shifted its headquarters to New Delhi and expanded its operations significantly.

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PNB operates through a vast network of branches and ATMs across India, catering to the banking needs of millions of customers. Its presence extends beyond the borders of India with branches and representative offices in several countries, facilitating international banking services.

PNB's financial performance has been a subject of scrutiny and attention in recent years, particularly due to issues related to non-performing assets (NPAs). However, the bank has undertaken various measures to strengthen its financial position and improve asset quality.

**Digital Payment Initiatives:**

In response to the increasing digitization of financial services, PNB has been actively involved in promoting digital payments and embracing digital banking solutions. The bank has launched various digital payment platforms and services to enhance customer convenience and promote cashless transactions. PNB has collaborated with fintech companies and payment aggregators to offer innovative digital payment solutions to its customers.

It participates in national initiatives such as the Unified Payments Interface (UPI), Bharat Bill Payment System (BBPS), and Aadhaar Enabled Payment System (AePS) to facilitate seamless digital transactions.

Overall, Punjab National Bank's engagement with digital payments underscores its proactive approach towards embracing technology and adapting to the changing needs of the banking industry and its customers.

## REVIEW OF LITERATURES

In the past, fintech in banking services has been analyzed by many researchers in India and abroad. A good number of papers have been published by them. Some of the most relevant literatures have been reviewed as under: -

**Arora, A.K., Panchal, A., Gupta, V.P., and Sharma, D. (2023)**, in their study on the title "*Digital Payment Apps: Perception and Adoption*", describe the meaning, application and features of Financial Technology (FinTech). This research has revealed the faster adoption rate of FinTech in India. In 2017, the adoption index of fintech in India was 54% and in 2019 it increased to 87%. This study concludes that the digital payments have the highest fintech applications. The government should also encourage fintech companies and promote innovative startups.

**Kumari, A., and Devi, N.C. (2022)** conducted a study under the title of "*The Impact of fintech and Blockchain Technologies on Banking and Financial Services*". The researcher revealed that fintech will lead to major changes in investment standards that

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offer excellent customer information backed by blockchain technology. Based on equity and decentralization, blockchain in fintech can provide a much more effective banking alternative than we currently have. The development of new technologies and increasing consumer expectations are driving needs in the financial sector, while digital transformation is crucial to increasing consumers. Fintech developments will likely bring about massive changes in business and financial services.

**Allen, F., Gu, X., and Jagtiani, J. (2021)** explained that Fintech, particularly the blockchain, has potential to be disruptive to financial system and intermediation. Only non-interest incomes generated by using technology-based products like mobile banking, ATM, internet banking and credit card fee are considered in this paper.

**Srinivasan, K., and Rajarajeshwari S. (2021)**, discussed issues such as fintech drivers, shortcomings of traditional financial services, and the role of technological advancements. They also address in their research the issues concerning fintech investment and disruption. Their paper examines the evolution of fintech in the global market over time.

**Painoli, Girish., and Vijai, C., (2021)** in their study on the title "*Impact of Fintech on the Profitability of Public and Private sector banks in India*", finds the impact of fintech on the profitability of Public and Private sector banks in India and banks are now joining with fintech startups to upgrade their existing system and enable smoother operations to deliver a better experience for consumers.

**Chugh, B. (2020)**, this paper attempts to answer the question, how is fintech regulated in India? The paper first analyzes the type of consumer-facing fintech activities that are currently prevalent in India. It identifies fourteen types of consumer-facing fintech activities in India. Together all these fourteen types of activities constitute a typology of consumer facing fintech activities in India.

**Raj, B., and Upadhyay, V., (2020)**, stated that the meaning of the term FinTech is the combination of the word financial technology. It can be broadly defined as technology enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions.

**Vijai, C. (2019)**, Fintech is financial technology; fintech provides alternative solutions for banking services. The study was focused to access the opportunities and challenges in fintech industry. It explains the evolution of the fintech industry and present financial technology in the Indian finance sector.

**Kandpal, V., and Mehrotra, R. (2019)** concluded in their study on the title "*Financial Inclusion: The Role of Fintech and Digital Financial Services in India*", concluded that the cashless transaction system is achieving its growth day by day, as soon as the market becomes globalized and the development of the banking sector and more people

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move to cashless from cash system.

**Siek, M., and Sutanto, A.**: (2019) conducted a study under the title of "*Impact Analysis of Fintech on Banking Industry*" in order to find out and analyse the role of fintech in banking industry. The study found that the probability of fintech has played very important role in banking industry. A number of important and realistic variables, such as customer satisfaction, net promotion score, promotion, ease of use etc., were considered in this research in order to find a variety of the value propositions that dominantly influence the adoption of fintech or banking products. The results show that the banks have been disrupted by the payment fintech since the emergence of fintech companies in around 2015, mainly due to superior value propositions, like promotion with standardized beta value of 0.349 and wide range of merchants with 0.153, respectively. In addition, the fintech startups have digital strategies on adopting a customer-centric mindset and developing a product that gives their customer a high customer satisfaction.

**Guild, J.** (2017), The application of financial technological innovations to financial industry (fintech) has been attracting tens of billions of dollars in venture capital in recent years. Examples of fintech innovations include digital cash transfer services in Kenya and India, and peer-to-peer lending platforms in China.

## STATEMENT OF THE RESEARCH PROBLEM

The integration of financial technology (FinTech) within the operations of Indian public sector banks presents both opportunities and challenges. Amidst rapid technological advancements, it becomes imperative to assess the impact of FinTech administration on cost-cutting and profitability within these banks. However, a comprehensive understanding of this impact, particularly within the context of a specific institution like Punjab National Bank (PNB), remains relatively unexplored. ***Thus, the statement of problem revolves around investigating the precise effects of FinTech adoption and management on cost reduction strategies and overall profitability within PNB.*** By addressing this gap, the research aims to provide valuable insights that can inform strategic decision-making processes within the Indian banking sector and contribute to the broader discourse on the role of technology in financial institution's performance enhancement. ***This study aims to address the critical problem of how PNB, as a prominent public sector bank, has navigated the complex landscape of fintech, including regulatory constraints, legacy systems, customer experience enhancements, employee adaptation, and its ability to remain competitive in the evolving financial ecosystem and the specific impact of the administration of fintech on cost cutting and profitability of Punjab National Bank as a representative case study.***

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## OBJECTIVES OF RESEARCH

The key objectives of the proposed study are: -

**1.**To study the application of Financial Technologies in the Banking Sector.

**2.**To examine the application of Financial Technologies for delivering Banking Services by Indian Public Sector Banks in general and Punjab National Bank in particular.

**3.**To assess the impact of the use of Financial Technologies on the performance of Indian Public Sector Banks in terms of cost efficiency and profitability.

**4.**To pinpoint the pros and cons of the application of Financial Technologies in Punjab National Bank.

## SIGNIFICANCE OF THE STUDY

The banking sector in India consists of several Public Sector Banks, Cooperative Banks and Foreign Banks. But among these four types, with approximately 69% of total deposits and advances of market share, Public Sector Banks dominate the Indian Banking industry.

By contributing directly to GDP, mobilizing savings and channelizing investments, the public sector banks play a crucial role in the Indian economy. But globalization and financial liberalization have extended banking operations, resulting in a wide range of products and services. The popularity of e-banking is increasing worldwide at a significant level. This research tries to draw a view regarding application of financial technology in different public sector banks, together with the Punjab National Bank.

This research will cover a Descriptive analysis and aims to provide a comprehensive understanding of how the administration of fintech has impacted the cost-cutting and profitability within Punjab National Bank, offering insights that contribute to the broader discourse on the role of fintech in transformation of Indian Public Sector Banks.

## HYPOTHESES

The hypotheses are: -

**$H_1$ 1 :-** Fintech has significant impact on the Cost of Banking Services.

**$H_0$ 1 :-** Fintech has no impact on the Cost of Banking Services.

**$H_1$ 2:-** Fintech has considerable impact on the Profitability of Punjab National Bank.

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**$H_0$ 2:-** Fintech has no impact on Profitability of Punjab National Bank.

## RESEARCH DESIGN AND METHODOLOGY

Research Methodology is the foundation of proposed work, and very important area of research. The strength and quality of the finding depend on the laid design.

Following are the components of design for the present research:

- The study is exploratory and descriptive in nature and based on secondary data.
- Various Public Sector Banks, PNB have been considered on an individual basis for the purpose of the study.

The necessary information will be gathered from different sources such as Annual report of PNB, Press Release Report of PNB, RBI Report on Trend and Progress in Public Sector Banks in India, RBI Bulletins and websites, Research Papers, Published Articles, Scholarly Journals, Periodicals related subject matter and related websites of Public Sector Banks in India.

**Nature of the data and sources:** The Study will be based on secondary data, collected from website of RBI and PNB, newspapers, internet, books, magazines, reports and journals.

**Tools of Data Analysis:**

The data collected from secondary sources will be suitably classified, tabulated and analyzed keeping in view the objectives of the study for which suitable statistical tools will be applied such as:

1.Percentage Trend Analysis

2.Mean

3.Correlation Analysis

4.Chi-Square Test, etc.

For the achievement of various mentioned objectives, the data collected will be entered, arranged and presented using Microsoft Excel and latest available version of SPSS as per need and suitability.

Pie-Charts, graphs and diagrams etc. will also be used according to the need to simplify the data for analytical purpose.

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## PLAN OF THE STUDY

The proposed study will get presented under Six chapters: -

**Chapter 1. Introduction**: This chapter will include the detailed overview of the topic. It will also include the reviewed literature and will explain the research problems. This chapter will further deal with the research methodology, significance and objectives of the study.

**Chapter 2. Financial Technology: A Conceptual Exposition:** This chapter will elaborate the meaning and conceptual exposition of financial technology.

**Chapter 3. Punjab National Bank in Indian Public Sector Banks- A vivid description:** This chapter will include the history and detailed overview of working and performance of Punjab National Bank as a prominent Public Sector Bank.

**Chapter 4. Cost Efficiency and Profit making in Target Bank:** This chapter will cover how the cost efficiency and profit-making is managed by the Punjab National Bank.

**Chapter 5. Impact of Administration of Fintech on Cost-Cutting and Profitability in PNB: An Empirical Analysis:** This chapter will contain the details of the impact of the administration of Financial Technologies on cost-cutting and profitability of the Punjab National Bank.

**Chapter 6. Findings and summing-up:** This chapter will incorporate the major findings and the conclusions of the study. It will also include the policy implications and the suggestions of the study for further research.

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